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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,946	03/31/2000	Carl M. Ellison	042390.P8104	3228

7590

02/23/2005

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EXAMINER

HENEGHAN, MATTHEW E

ART UNIT

PAPER NUMBER

2134

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/540,946	<b>Applicant(s)</b> ELLISON ET AL.	
	<b>Examiner</b> Matthew Heneghan	<b>Art Unit</b> 2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration..
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6 IDS's</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. In response to the previous office action, Applicant has amended claims 1, 5, 6, 8-10, 13, 17-19, 22, 25, 32-34, 37, and 41-46. Claims 1-48 have been examined.

#### ***Information Disclosure Statement***

2. The following Information Disclosure Statements in the instant application have been fully considered:

IDS filed 30 March 2004.

IDS filed 2 April 2004.

IDS filed 30 June 2004.

IDS filed 2 July 2004.

IDS filed 2 September 2004.

IDS filed 27 September 2004.

#### ***Drawings***

3. The drawings were received on 2 September 2004. These drawings are acceptable.

#### ***Specification***

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4. All previous objections to the specification are withdrawn.

***Claim Objections***

5. All previous claim objections are withdrawn.

***Claim Rejections - 35 USC § 112***

6. All previous rejections under 35 U.S.C. 112 are withdrawn.

***Claim Rejections - 35 USC § 102 and 35 USC § 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-48 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 5,421,006 to Jablon et al.

As per claims 1, 2, 4, 7, 13, 14, 16, 19, 25, 26, 28, 31, 37, 38, 40, and 43, the system integrity scheme disclosed by Jablon includes the generation of a private key (using encryption) for each program level, including parts of the operating system, for protecting a subset of the operating system's environment (see column 16, lines 36-44 and column 19, lines 28-44). Each level's private key is based upon the level's MDC (which is unique) and the public key of a trusted authority (the BK0) and stored and retrieved as a signature.

Though Jablon's exemplary embodiment employs a ringless operating system, DOS, the invention disclosed by Jablon would clearly work with a ringed system; moreover, Jablon discloses that the invention may be used with other operating systems (see column 10, lines 23-24) and specifically notes a ringed operating system, UNIX, that would benefit from the Jablon's invention (see column 3, lines 12-23). The claimed invention is therefore anticipated by Jablon.

Alternatively, it is also noted that Jablon only discloses a ringless embodiment (using DOS), though the invention may be used with other operating systems (see column 10, lines 23-24).

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Jablon notes that UNIX, despite its ringed architecture, needs additional protection, as preventing root access is a well-known security problem of the system (see column 3, lines 12-23).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the invention disclosed by Jablon in a ringed operating system, such as UNIX, as preventing root access is a well-known security problem of the system.

As per claims 3, 15, 27, and 39, Jablon discloses that the MDC may be a hash value (see column 5, lines 44-47).

As per claims 5, 17, 29, and 41, a second hash is computed and compared to the original for verification (see column 19, lines 39-44).

As per claims 6, 18, 30, and 42, a layer of the OS, the login file may be stored encrypted, and decrypted for verification (see column 22, lines 47-56).

As per claims 8, 20, 32, and 44, a list of programs (the manifest) may be kept, with all the above-mentioned integrity information (see column 17, line 48 to column 18, line 24).

As per claims 9, 21, 33, and 45, the invention uses a latch to protect the system from untrusted software (isolated execution) (see abstract).

Regarding claims 10, 22, 34, and 46, Jablon discloses the use of DOS on a PC, and notes that the invention may be used with many other operating systems (see column 10, lines 18-24). Windows 3.1, NT 3.51, and Windows 95 run atop DOS, and therefore are encompassed by the invention.

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Regarding claims 11, 23, 35, and 47, the list of programs encompasses all of the programs running at the level immediately below a program. The level immediately below the operating system (DOS) is defined by the registry, and there therefore exists such a list.

As per claim 12, 24, 36, and 48, BK0 may also come from the boot record, which is at the highest level, which may include a random element calculated during the bootup sequence (see column 15, lines 1-9).

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Heneghan, whose telephone number is (571) 272-3834. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday from 8:30 AM - 4:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse, can be reached at (571) 272-3838.

**Any response to this action should be mailed to:**

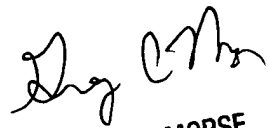
Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Or faxed to:**

(703) 872-9306


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
GREGORY MORSE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2134



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MEH 

February 16, 2005